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EXAMINER
STEELMAN, MARY J

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/733,674		TSUBOI, AKIRA
	Examiner		Art Unit
	Mary J. Steelman		2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _08 December 2001_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-17_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-17_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _08 December 2000_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☒ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _2--12/08/01_.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-17 are pending.

Information Disclosure Statement

2.   IDS received 12/08/2001 has been considered.

Drawings

3.   Figure 9 is not referenced in the Specification. See page 29, line 6.

Specification

4.   The use of the trademark JAVA / JAVA VM has been noted in this application. It should

be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary

nature of the marks should be respected and every effort made to prevent their use in any manner

which might adversely affect their validity as trademarks.

5.   Examiner objects to the length of the Abstract. See **Content of Specification:**

Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the

disclosure as a whole in a single paragraph of 150 words or less commencing on a

separate sheet following the claims. In an international application which has

entered the national stage (37 CFR 1.491(b)), the applicant need not submit an

abstract commencing on a separate sheet if an abstract was published with the

international application under PCT Article 21. The abstract that appears on the

cover page of the pamphlet published by the International Bureau (IB) of the

World Intellectual Property Organization (WIPO) is the abstract that will be used

by the USPTO. See MPEP § 1893.03(e).

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claims 4 and 7 are rejected under 35 U.S.C. 112, second paragraph, for being indefinite.

7.35.01 Trademark or Trade Name as a Limitation in the Claim

Claims 4 and 7 contain the trademark/trade name JAVA. Where a trademark or trade name

is used in a claim as a limitation to identify or describe a particular material or product,

the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph.

See Ex parte Simpson, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain

since the trademark or trade name cannot be used properly to identify any particular

material or product. A trademark or trade name is used to identify a source of goods,

and not the goods themselves. Thus, a trademark or trade name does not identify or

describe the goods associated with the trademark or trade name. In the present case,

the trademark/trade name is used to identify/describe byte code programming language and,

accordingly, the identification/description is indefinite.

8.   Claims 1-4, 8, 10, 12, 14, and 16 are rejected under 35 U.S.C. 112, second paragraph, for

being indefinite.

The term "power supply voltage has dropped" in claims 1, 8, 10, 12, 14, and 16 is a

relative term, which renders the claim indefinite. The term " power supply voltage has dropped"

is not defined by the claim, the specification does not provide a standard for ascertaining the

requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the

scope of the invention. Claims 2-4 are dependent upon claim 1 and thus are also indefinite.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

10.   Claims 1-4, 8, 10, 12, 14, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated

by US Patent 6,349,344 to Sauntry et al.

Per claims 1 and 8:

        An apparatus having an execution unit for executing a machine language, compiling a

source program into a machine language directly executable by the execution unit, and executing

the machine language in a just-in-time-compiler system, comprising: (Col. 3, lines 47-48, "The

present invention describes devices, computers, computer-readable media, and systems of

varying scope" (apparatus) and col. 10, lines 24-29, "whole the class files are being parsed

during creation of the preload DLL file, JAVA byte code may also be compiled into native code,

and this native code also stored in the DLL file. (compile source program into a machine

language) This is comparable to the just-in-time (JIT) interpretation conducted on a typical

JAVA virtual machine...")

a storage unit storing for each function a machine language executable by the execution

unit obtained by compiling a function described in the source program, and maintaining stored

data although a power supply voltage has dropped; (Col. 8, lines 33-35, "The file is desirably

burned into ROM (or other nonvolatile storage device) to create a run-time image of the JAVA

class files...")

compiling unit compiling the source program into a machine language executable by the

execution unit; (Col. 10, lines 24-31, "while the class files are being parsed during creation of

the preload DLL file, JAVA byte code may also be compiled into native code...time is not

wasted later...at run-time...")

storage control unit storing the machine language compiled by said compiling unit; (Col.

7, lines 36-39 and 55-58, "converter uses the JAVA class files as input (as stored on a storage

such as a hard disk drive of the workstation), outputs the resulting file, which is then used by

ROM imager as input to burn on a ROM." And "The converter is desirably a software tool that

provides for the combination of class files into a single DLL file , where the DLL file is in

portable executable (PE) format known in the art.")

a determination unit determining whether or not a machine language obtained by

compiling a function used in the source program is stored in said storage unit; (Col. 8, lines 52-

61, "As new classes are requested by a JAVA program, the list of classes in the core class DLL

file is searched...")

an execution control unit instructing the execution unit to directly execute either a

machine language compiled by said compiling unit or a machine language stored in said storage

unit depending on a determination result obtained by said determination unit. (Col. 8, lines 52-

61, "As new classes are requested by a JAVA program, the list of classes in the core class DLL

file is searched, and if the new classes are found, the class initializer is executed...if a new class

is not found, then a normal search for the class file is started in the file system...loaded and

parsed...")

Per claim 2:

said storage unit stores in advance a machine language obtained by compiling a function

which can be used in the source program. (Col. 6, lines 29-33, "...JAVA class files are

preparsed and preloaded into a run-time image in read-only memory (ROM), for reliance by a

JAVA virtual machine when running a JAVA program...is shown in FIG. 2(b).

Per claim 3:

semiconductor memory copying and storing data stored in said storage unit,   (See fig. 1

and col. 4, lines 5-10, and col. 5, lines 6-11, "other embodiments may be utilized ant that logical,

mechanical, electrical and other changes may be made..." and "...a hard disk drive for reading

from and writing to a hard disk, a magnetic disk drive...an optical disk drive...")
wherein

said execution control unit instructs the execution unit to execute a machine language

copied from the data stored in said storage unit and stored in said semiconductor memory instead

of instructing the execution unit to execute a machine language stored in said storage unit. (See

fig. 1 and col. 4, lines 48-50, "In a distributed computing environment, program modules may be

located in both local and remote memory storage devices." (copies of data in both / either

location to be executed by system), col. 5, lines 6-25, "...a hard disk drive...magnetic disk

drive...optical disk drive...The drives...provide nonvolatile storage of computer readable

instructions...any type of computer readable media which can store data that is accessible by a

computer...may be used...", and col. 6, lines 3-9, "In a networked environment, program

modules depicted relative to the personal computer...may be stored in the remote memory

storage device...means of and communications (execution control unit) devices for establishing

a communications link between the computers may be used." Communication devices determine

where to locate machine language, local ROM or another semiconductor memory device.)

Per claim 4:

said source program is described in Java byte code. (Abstract, lines 1-2, "Combining

multiple JAVA class files into a run-time image is disclosed.")

Per claims 10, 12, 14, and 16:

A method for executing a program based on a just-in-time-compiler system for compiling

a source program into a machine language directly executable on a platform of a specific

processing system, and executing the machine language, comprising: (Col. 9, lines 23-26, "This

method is inclusive of the steps or acts required to be taken...to preload and prepares at least one

JAVA class file into a run-time image (compiled into machine language) stored on a nonvolatile

storage device such a ROM." Also, col. 10, lines 26-27, "This is comparable to the just-in-time

(JIT) interpretation...")

storing in a storage unit, which maintains stored data although a supply voltage has

dropped, the machine language obtained by compiling the source program for each function

expressed in the source program; (Col. 10, lines 23-26, "while the class files are being parsed

during creation of the preload DLL file, JAVBA byte code may also be compiled into native

code, and this native code also stored in the DLL file.")

determining whether or not the machine language obtained by compiling the function

described in the source program is stored in the storage unit; (Col. 8, lines 52-61, "As new

classes are requested...the list of classes in the core class DLL file is searched (ROM /

nonvolatile storage), and if the new classes are found (determine whether machine language is

stored in the storage unit), the class initializer is executed...")

setting either the machine language obtained by compiling the source program or the

machine language stored in the storage unit to be directly executed on a platform of a specific

processing system based on a determination result. (Col. 8, lines 52-61, "...if the new classes are

found, the class initializer is executed (machine language stored in the storage unit directly

executed)...if a new class is not found, then a normal search for the class file is started in the file

system and if found, the class is loaded and parsed (compiled the source program)...")

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

12.   Claims 5-7, 9, 11, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over US Patent 6,349,344 B1 to Sauntry et al., in view of US Patent 5,978,585 to

Crelier.

Per claims 5 and 9, Sauntry disclosed:

An apparatus having an execution unit for executing a machine language, compiling a

source program into a machine language directly executable by the execution unit, and executing

the machine language in a just-in-time-compiler system, comprising: (Col. 3, lines 47-48, "The

present invention describes devices, computers, computer-readable media, and systems of

varying scope" (apparatus) and col. 10, lines 24-29, "whole the class files are being parsed

during creation of the preload DLL file, JAVA byte code may also be compiled into native code,

and this native code also stored in the DLL file. (compile source program into a machine

language) This is comparable to the just-in-time (JIT) interpretation conducted on a typical

JAVA virtual machine...")

a storage unit storing for each function a machine language executable by the execution

unit obtained by compiling a function described in the source program, and maintaining stored

data after the source program has been executed; (Col. 8, lines 33-35, "The file is desirably

burned into ROM (or other nonvolatile storage device) (maintain stored data after execution) to

create a run-time image of the JAVA class files ..." and col. 7, lines 56-59, "The converter is

desirably a software tool...that provides for the combination of class files into a single DLL file,

where the DLL file is in portable executable (PE) format (store converted source into DLL in

machine language)."

compiling unit compiling the source program into a machine language executable by the

execution unit; (Col. 10, lines 24-27, "while the class files are being parsed during creation of

the preload DLL file, JAVA byte code may also be compiled into native code (compile source

code into machine language), and this native code also stored in the DLL file...time is not

wasted later ...at run-time (execution).")

an execution control unit instructing the execution unit to directly execute either a

machine language compiled by said compiling unit or a machine language stored in said storage

unit depending on a determination result obtained by said determination unit. (Col. 8 , lines 52-

61.)

Sauntry disclosed a storage control unit storing the machine language compiled by said

compiling unit, but failed to disclose details regarding updating and the use of date and time.

However, Crelier disclosed:

corresponding to update date and time of the source program compiled by said compiling

unit; (Abstract, lines 8-9, "Examination of the timestamps leads to detection of those files which

have been modified. The system will recompile..." Also, col. 3, lines 26-34, "...system keeps

track of several pieces of information...timestamps of sources and compiled files...Examination

of the timestamps leads to detection of those files which have been modified...")

a determination unit determining whether or not the update date and time of the source

program matches an update date and time corresponding to the machine language stored in said

storage unit; (Abstract, lines 10-13, "The system will recompile A.java in the following

circumstances: (1) A.class is not found, (2) A.java has a different timestamp, or (3) A.class has a

different timestamp." Also see FIGS. 4A-C and col. 10, lines 10-38, "...at step 402, the source

file's timestamp is examined to determine whether it has changed...")

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention, to have modified Sauntry's invention, to include information regarding timestamps

and program modification requiring recompilation, as this is a useful technique for maintaining

logic regarding updates and to track versioning as software evolves.

Per claim 6, Sauntry disclosed:

a read unit reading a program file storing the source program, wherein (Col. 7, line 36,

"...the converter uses the JAVA class files as input... (read program file)")

said storage control unit stores the machine language in said storage unit (Col. 7, lines

38-39, "...ROM imager (storage control unit) as input to burn on a ROM (said storage unit)."

Sauntry disclosed a storage control unit stores the machine language in said storage unit,

but failed to disclose details regarding updating and the use of date and time. However, Crelier

disclosed:

by assuming that the update date and time of the program file indicated in the program

file is the update date and time of the source program corresponding to the machine language;

(Col. 3, lines 38-39, "If a recompilation is not required..." (assume that compiled language has

not changed from source language through the use of timestamps.)

said determination unit determines whether or not the update date and time of the

program file indicated in the program file matches the update date and time stored in said storage

unit corresponding the machine language. (Col. 3, lines 33-34, "Examination of the timestamps

leads to detection of those files which have been modified. The system will recompile..." If the

timestamps do not match, the source files have been modified, therefore requiring

recompilation.)

Per claim 7, Sauntry disclosed:

The apparatus according to claim 5, wherein said source program is described in Java

byte code. (Abstract, lines 1-2, "Combining multiple JAVA class files into a run-time image is

disclosed.")

Per claims 11, 13, 15, and 17, Sauntry disclosed:

A method for executing a program based on a just-in-time-compiler system for compiling

a source program into a machine language directly executable on a platform of a specific

processing system, and executing the machine language, comprising: (Col. 8, lines 47-52, "At

run-time (executing), the JAVA virtual machine does a LoadLibrary call and a GetProcAddress

call..." and col. 9, lines 23-26, "This method is inclusive of the steps or acts required to be taken

by a device such as a computer to preload and preparse at least one JAVA class file into a run-

time image (machine language) stored on a nonvolatile storage device such as a ROM." Also

col. 10, lines 26-27, "This is comparable to the just-in-time (JIT) interpretation ...")

storing the machine language obtained by compiling the source program for each

function described in the source program; (Col. 10, lines 23-26, "...while the class files are

being parsed during creation of the preload DLL file, JAVA byte code may also be compiled into

native code, and this native code also stored in the DLL file.")

Sauntry disclosed a storage control unit stores the machine language in said storage unit, but failed to disclose details regarding updating and the use of date and time. However, Crelier disclosed:

storing compiled code corresponding to an update date and time of the source program before compiled into a machine language; (Col. 3, lines 29-31, "the system keeps track of several pieces of information. From the outset, the system has kept track of the timestamps of sources...and compiled files thereof...")

determining whether or not the date and time of the update of the source program matches an update date and time corresponding to the stored machine language; (Col. 3, lines 33-34, "Examination of the timestamps leads to detection of those files which have been modified.")

setting either the machine language obtained by compiling the source program or the machine language stored in the storage unit to be directly executed on a platform of a specific processing system based on a determination result. (Col. 3, lines 34-47, "The system will recompile...in the following circumstances...Otherwise, the system does not invoke a recompile...")

Conclusion

13.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (703) 305-4564. The

examiner can normally be reached Monday through Thursday, from 7:00 A.M. to 5:30 P.M. If

attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan

Dam can be reached on (703) 305-4552.

The fax phone number is (703) 872-9306 for regular communications and for After Final

communications. Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Mary Steelman

03/04/2004

TUAN DAM
SUPERVISORY PATENT EXAMINER